

OWENS PEAK LOMATIUM

Lomatium shevockii

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Management Status: Federal: USFWS Species of Concern, BLM Sensitive
California: S1.3, G1 (CDFG, 1998)
CNPS: List 1B, R-E-D code 3-1-3 (Skinner and Pavlik, 1994)

General Distribution:

Owens Peak lomatium is a restricted endemic from the Owens Peak area of the southern Sierra Nevada Mountains. All known populations of this species apparently occur along fewer than 3 linear miles (5 km) of the rugged eastern Sierran ridgeline from Owens Peak south to the Mt. Jenkins (North Morris Peak) area (Hartman and Constance, 1988). There are three documented populations and one reported population, all of which are located in the Owens Peak Wilderness Area. The Mt. Jenkins populations fall just outside the western border of the WMPA.

Distribution in the West Mojave Planning Area:

The only documented population of Owens Peak lomatium in the WMPA occurs on the eastern slope of Owens Peak at approximately 8000 ft. (2440 m) elevation in gravelly to sandy soil.

Natural History:

This low growing, tufted perennial is placed in the subgenus *Euryptera* of *Lomatium* because of the broad, notched fruit apex and base, as well as the wings or rays of the fruit (0.08-0.12 in. wide, 0.04-0.44 in. long [2-3 mm and 1-11 mm respectively]; Hartman and Constance, 1988). These characters separate Owens Peak lomatium from most other *Lomatium* species found in the southern and central Sierra Nevada Mountains, such as alkali parsnip (*L. caruifolium* var. *caruifolium*), Congdon's lomatium (*L. congdonii*), hog fennel (*L. dasycarpum* ssp. *tomentosum*), fine-leaved parsley (*L. dissectum* var. *multifidum*), false fennel (*L. foeniculaceum* ssp. *fimbriatum*), Sierran parsley (*L. nevadense* var. *parishii*), Stebbins' lomatium (*L. stebbinsii*) and loyal parsley (*L. torreyi*). Owens Peak lomatium differs from *L. rigidum*, a similar species in the same subgenus, found only in the Big Pine and Bishop Creek areas of Inyo County, in having narrower fruit wings or rays (1-2 in. [25-50 mm]), and shorter fruiting pedicels (0.2-0.4 in. [5-10 mm]) in *L. rigidum* vs. (0.004-0.04 in. [0.1-1 mm]) in *L. shevockii*; Constance, 1993). The young leaves of Owens Peak lomatium resemble those of *Oreonana clementis* and *Cymopterus* (Hartman and Constance, 1988). In light of this fact, care should be taken to observe fertile plant material for proper identification. *Lomatium shevockii* flowers from late April to mid-May, with the fruits developing by mid-June.

Pollination and seed germination requirements are not known for this species. Based on the deeply buried, elongated, taproot this species is undoubtedly a long-lived perennial which does not depend on frequent reproduction to maintain its populations. One can speculate that successful germination and establishment may occur only at long intervals following particularly favorable environmental conditions. The seeds are presumably wind dispersed, based on the presence of the two broad wings.

Habitat Requirements:

Owens Peak lomatium occurs on rocky, open talus slopes derived from granitic or metamorphic substrates in mixed coniferous forest or Pinyon pine/canyon live oak woodland (Shevock, pers. com., 1997). The associated coniferous forests are park-like "mixed conifer series" (Sawyer and Keeler-Wolf, 1995) or "mixed conifer forests" (Holland and Keil, 1995), between 7200 ft. (2195 m) and 8100 ft. (2470 m) in elevation. These forests include Jeffrey pine

(*Pinus jeffreyi*), limber pine (*P. flexilis*), singleleaf pinyon (*P. monophylla*), sugar pine (*P. lambertiana*), white fir (*Abies concolor*) and sierra juniper (*Juniperus occidentalis* ssp. *australis*) as dominant trees. Smaller associated species include Burlew's onion (*Allium burlewii*), Wright's buckwheat (*Eriogonum wrightii* var. *subscaposum*), purple sage (*Salvia pachyphylla*), mountain pincushion (*Orochaenactis thysanocarpha*), California fuschia (*Epilobium canum* ssp. *latifolium*) and monkeyflower (*Mimulus* sp.), with no single set of species, accompanying all populations. Several other sensitive species such as Needles buckwheat (*Eriogonum breedlovei* var. *shevockii*), sweet-smelling monardella (*Monardella beneolens*), Nine-mile Canyon phacelia (*Phacelia novemmillensis*), Hall's daisy (*Erigeron aequifolius*), Dedecker's clover (*Trifolium macilentum* var. *dedeckerae*) and Muir's raillardella (*Raillardiopsis muirii*) are also known from the Owens Peak area.

Threats Analysis:

The existence of only three confirmed populations in a small range poses the greatest threat to Owens Peak lomatium. The two documented populations on Owens Peak are bisected by the Pacific Crest Trail and so could be adversely affected by trail maintenance. Presumably these populations were partially eliminated by trail construction. These populations occur on very steep, rugged terrain which should minimize the chances of pedestrian traffic on the species (Shevock, pers. com., 1997). With a small number of populations and restricted distribution, this species could be vulnerable to chance extinction by climatic fluctuations, accidents, or other extreme phenomena.

Biological Standards:

All known populations of Owens Peak lomatium occur within the Owens Peak Wilderness Area, which should protect the species from logging and grazing pressures. The remoteness of the Owens Peak lomatium populations and the ruggedness of the habitat greatly reduce the possibility of habitat destruction by trampling. Wilderness Area management decisions such as Pacific Crest Trail maintenance, future trail expansion or fire prevention strategies should consider known Owens Peak lomatium populations to reduce the risk of habitat alteration or destruction.

Literature Cited:

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- Sawyer, J.O. and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society, Sacramento, California.
- Skinner, M.W. and B.M. Pavlik (eds.). 1994. *Inventory of Rare and Endangered Vascular plants of California*. Special Pub. No. 1 (5th ed.). California Native Plant Society, Sacramento, California.